



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/680,901	10/06/2003	David Joe Steele	2003-IP-012001	6365
30652	7590	02/10/2006	EXAMINER	
CONLEY ROSE, P.C. 5700 GRANITE PARKWAY, SUITE 330 PLANO, TX 75024			DANG, HOANG C	
			ART UNIT	PAPER NUMBER
			3672	

DATE MAILED: 02/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/680,901	Applicant(s) STEELE ET AL.	
	Examiner Hoang Dang	Art Unit 3672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18, 20-52 and 54-75 is/are pending in the application.
- 4a) Of the above claim(s) 55-62 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 21, 23-29, 31-52, 54 and 63-75 is/are rejected.
- 7) ☒ Claim(s) 9-18, 20, 22 and 30 is/are objected to.
- 8) ☒ Claim(s) 55-62 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/31/2005</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1-4, 21, 23, 25-27, 31, 33, 34, 38, 41, 49, 74 and 75 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Hsueh (US 4,696,345) (see figure 1 and column 2, line 53 through column 3, line 26).

As for claim 26, oil and condensate are recovered from the production well.

As for claim 27, oil is recovered from the production well and condensate is recovered from the HAS pipe.

As for claim 38, the recited “steam trap” does not distinguish from the horizontal annulus portion of the HAS pipe.

Contrary to applicant’s argument, the heat in the HAS PIPE of Hsueh reduces the viscosity of the oil in the formation surrounding the HAS PIPE, thereby allowing at least some oil near the production well to flow into the production well by gravity. It is noted that Figure 1 of Hsueh shows the lowermost end of the production well extends below the HAS PIPE and to the bottom of the production zone. At least some oil immediately adjacent to the intersection between the HAS PIPE and the production well flows into the production well by gravity.

3. Claims 1-4, 21, 23-29, 31, 33, 34, 41, 42 and 44-49 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Cook (US 3,338,306) (see figures 1-2 and column 6, lines 3-35 for examples).

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1-6, 21, 23-29, 31, 33, 41, 42, 44-52, 54, 63-66, 69-71 and 73-75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vandergrift (US 4,099,570) in view of Cook (US 3,338,306).

Vandergrift '570 discloses the invention as claimed except that the oil is produced via the same horizontal wellbore in which steam is circulated whereas the claims call for a second wellbore. Cook '306 discloses a method and apparatus for recovering heavy oil from oil sands as that of Vandergrift. However, Cook suggests providing an oil-collection conduit in a separate, lowest wellbore so that the heated oil flows downwardly into it from which it is recovered. It would have been obvious to one of ordinary skill in the art at the time the invention was made to locate the oil-recovery conduit of Vandergrift in a second wellbore in view of the teaching of Cook for the advantage pointed out above. As for claim 54, see valve 32 disclosed in column 6, lines 42-50 of Vandergrift.

6. Claims 5, 36-40, 50-52, 54, 63-66, 69-71 and 73-75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cook '306 in view of Vandergrift '570.

Cook discloses the invention as claimed except that Cook does not disclose the injection of at least a portion of the steam from the loop system into the subterranean formation. Vandergrift discloses a method and apparatus for producing heavy oil from oil sands as that of Cook. However, Vandergrift teaches that direct and indirect heating of the formation are not mutually exclusive and a proportion of the steam can escape into the formation through

Art Unit: 3672

perforations (column 2, lines 39-44). Vandergrift also teaches providing valves on steam and oil recovery conduits so that the flow of steam or oil may be controlled (column 6, lines 26-28 and 42-50). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Cook to controllably release a proportion of fluid into the formation as claimed in view of the teaching of Vandergrift for the advantage pointed out above.

7. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vandergrift (US 4,099,570) in view of Cook (US 3,338,306), or vice versa, as applied to claim 5 above, and further in view of Sanchez (5,148,869).

Vandergrift, as modified by Cook '306 or vice versa, discloses the invention as claimed except for injection of an oil-soluble fluid into the subterranean formation before, after or concurrent with the injection of steam. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add an oil soluble fluid into the formation with steam as claimed in view of the teaching of Sanchez in order to enhance the recovery of oil (see column 3, lines 1-39).

8. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vandergrift (US 4,099,570) in view of Cook (US 3,338,306) or vice versa, as applied to claim 1 above, and further in view of Rogers et al (US 4,765,410) or Rivas et al (US 4,678,039).

Vandergrift, as modified by Cook '306 or vice versa, discloses the invention as claimed except for the use of a chemical to reduce contaminants in the loop system. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a chemical with the steam injection of Vandergrift as modified by Cook or vice versa, in order to

Art Unit: 3672

disintegrate contaminants in the wellbore and in the formation matrix as taught by Rogers et al (see the abstract) or Rivas et al (see column 3, lines 28-31).

9. Claims 34-40 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vandergrift (US 4,099,570) in view of Cook (US 3,338,306) or vice versa, as applied to claims 33 and 42 above, and further in view of Gregoli et al (US 6,016,868) or Young et al (US 3,809,159).

Vandergrift, as modified by Cook '306 or vice versa, discloses the invention as claimed except for the use of a steam boiler that is fired from hydrocarbons recovered from the wellbore. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to generate steam in Vandergrift as modified by Cook, or vice versa using a boiler which is fired by hydrocarbons produced from the well because either Gregoli et al or Young et al teach using a steam boiler to produce steam that is injected into a formation and using gas produced from the formation to operate the steam boiler (see column 31, lines 28-32 in Gregoli et al and column 3, lines 33-40).

As for claims 36-37, see column 5, lines 22-28 in Vandergrift.

As for claims 38, the "steam trap" does not distinguish from the annulus formed between the outer casing and inner steam injection pipe in Figures 2-5 of Vandergrift.

As for claims 39 and 40 the use of a pump to boost the pressure of the pumped fluids and the use of a flash tank to adjust the pressure of the produced fluids are well known in the art and would have been obvious.

Art Unit: 3672

10. Claims 67, 68 and 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vandergrift (US 4,099,570) in view of Cook (US 3,338,306) or vice versa, as applied to claims 66 and 71 above, and further in view of Sheinbaum (US 4,364,232).

Vandergrift, as modified by Cook '306 or vice versa, discloses the invention as claimed except that the valves of Vandergrift are not disclosed as actuatable by heat. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a thermally operated valve in Vandergrift as modified by Cook or vice versa, because thermally operated valves are well known and used in a well to control the flow of hot or heated fluids as evidenced by Sheinbaum (see column 13, lines 62-63).

Response to Arguments

11. Applicant's arguments with respect to claims 1-18, 20-52, 54 and 63-75 have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

12. Claims 9-18, 20, 22 and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 3672

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

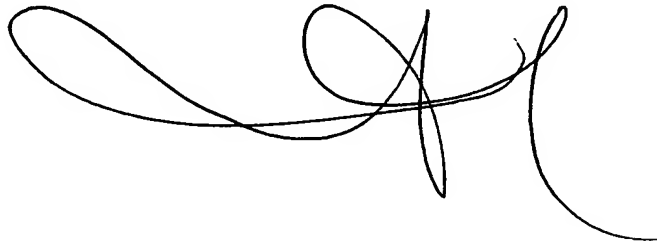
15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoang Dang whose telephone number is 571-272-7028. The examiner can normally be reached on 9:15-5:45 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Bagnell can be reached on 571-272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3672

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hoang Dang
Primary Examiner
Art Unit 3672

A handwritten signature in black ink, consisting of a large, stylized loop followed by a series of overlapping strokes that form a cursive 'H' and 'D'.